Re Reginald Amendment

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AUG 9 1990

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August 3, 1990

VIA TELECOPIER
Confirmation By International Express Mail

Mr. P. Antony Smith
Reddie & Gross
16 Theobalds Road
London, England WC1X8PL

Metal Carbide Heat Source - PM-1326
Taiwanese Patent Application No. 78109365

Dear Mr. Smith:

Beverly Monroe asked that we respond to your letter to her dated July 10, 1990 relating to the Official Letter outstanding in the above-identified application. Our suggestions in responding to the Official Action are set forth below. We have also enclosed a set of proposed amended claims.

In response to the Examiner's requirement in paragraph 1(1) of the Official Letter that the dependent claims be combined into independent Claim 1, we suggest limiting the claims to iron carbide heat sources having a specific range of formulae, and incorporating into Claim 1 the limitations of void volume and ignition temperature of the iron carbide heat source. This would allow cancellation of original Claims 2, 5, 6, 15 and 19, which recited these limitations. Furthermore, we suggest amendment of Claims 7, 10, 11, 13, 16 and 17 to recite specific numerical ranges instead of the terms "about" and "more" that the Examiner objected to, for the physical characteristics of the heat sources recited in those claims. Those amendments are set forth in proposed Claims 4, 7, 8, 9, 10 and 11, respectively. We also suggest cancellation of Claims 12, 14, and 18 which recite more narrow ranges of these physical characteristics.

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In paragraph 1(2) of the Official Letter, the Examiner referred to independent Claim 20. Since there are only 19 claims in the application as filed, we assume the Examiner meant to refer to Claim 4, the only independent claim of the application besides Claim 1. In our proposed amended claims, we amended original Claim 4 (now Claim 3) in the same manner as Claim 1.

We believe that proposed independent Claims 1 and 3 recite characteristics necessary to define the heat sources of this invention. The application discloses an iron carbide heat source having all of the characteristics suitable for use as a heat source. For example, iron carbide has an appropriate thermal conductivity (p. 7, lines 18-31) and undergoes 100% combustion (p. 7, lines 26-27). Heat sources made from iron carbide, therefore, are capable of sustained combustion (p. 7, lines 19-31) and generate sufficient heat to be useful as a heat source (p. 8, lines 7-15). The application describes the range of void volumes (p. 9, lines 22-24) which impart the desired combustion characteristics to the heat source. The void volume controls the amount of air reaching the combusting portion of the heat source (p. 9, lines 19-22), and consequently, the rate and temperature of combustion of the heat source.

We suggest that the physical properties of particle size, B.E.T. surface area, pore size and density, set forth in dependent Claims 8-11, remain separated from the independent claims because each of these parameters can affect the void volume, recited in the independent claims. That is, a particular void volume of an iron carbide heat source may be obtained by varying the particle size, surface area, pore size or density of the iron carbide.

With respect to the Examiner's rejection in paragraph 2 of the Official Letter, we suggest that the abstract be amended to replace "metal" with "iron" and the title of the application changed to "Iron Carbide Heat Source".

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Beverly Monroe, Esq.

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Please let us know if we may be of further assistance.

Best regards.

Sincerely,

Denise L. Loring
Edward W. Boyer

DLL/EWB:od
Enclosures

cc: Ms. Beverly A. Monroe (w/enclosure)

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